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Adapting Syndromic Surveillance Systems to Increase Value to Local Health Departments

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Objective

Our objective was to describe changes in use following syndromic surveillance system modifications and assess the effectiveness of these modifications.

Introduction

Syndromic surveillance systems offer richer understanding of population health. However, because of their complexity, they are less used at small public health agencies, such as many local health departments (LHDs). The evolution of these systems has included modifying user interfaces for more efficient and effective use at the local level. The North Carolina Preparedness and Emergency Response Research Center previously evaluated use of syndromic surveillance information at LHDs in North Carolina. Since this time, both the NC DETECT system and distribution of syndromic surveillance information by the state public health agency have changed. This work describes use following these changes.

Methods

Data from NC DETECT were used to assess the number of users and usage time. Staff from 14 NC LHDs in 2009 and from 39 LHDs in 2012 were surveyed (May-August of 2009 and June of 2012) to gather information on the mode of access to syndromic surveillance information and how this information was used. Data were analyzed to assess the link between the mode of access and use of syndromic surveillance data.

Results

System changes made between 2009 and 2012 included the creation of "dashboards" (Figure 1) which present users with LHD-specific charts and graphs upon login and increases in the distribution of syndromic surveillance information by the state public health agency. The number of LHD-based NC DETECT system users increased from 99 in 2009 to 175 in 2012. Sixty-two of 72 respondents completed the 2012 survey (86%). Syndromic surveillance information was used in 28/40 LHDs (70%) for key public health tasks. Among 20 NC EDSS leads reporting an outbreak in the past year, 25% reported using data from NC DETECT for outbreak response, compared to 23% in 2009 (Figure 2). Among 30 responding NC EDSS leads, 57% reported using data from NC DETECT to respond to seasonal events such as heat-related illness or influenza, compared to 46% in 2009. NC DETECT data were reported to have been used for program management by 30% (compared to 25% in 2009), and to have been used in reports by 33% (compared to 23% in 2009).

Conclusions

Changes in how syndromic surveillance information was distributed supported modest increases in use in LHDs. Because use of syndromic surveillance data at smaller LHDs is rare, these modest increases are important indicators of effective modification of the NC syndromic surveillance system.

Figure 1: NC DETECT dashboards

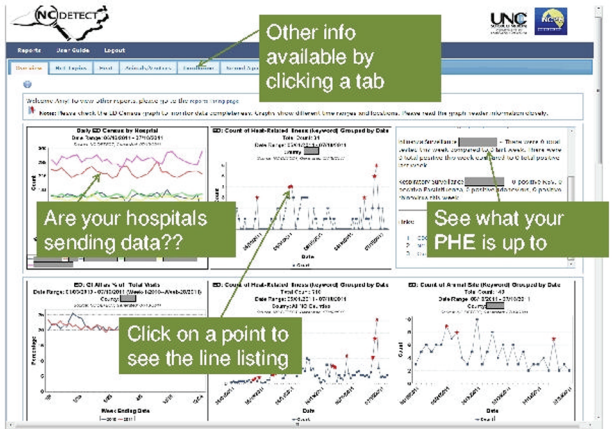
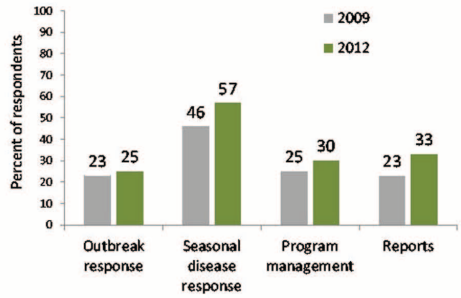


Figure 2: Uses of syndromic surveillance information, communicable disease staff 2009 (13 LHDs) and 2012 (31 LHDs)



Keywords

evaluation; public health practice; syndromic surveillance; surveillance; local health department

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